TABLES

Table 13
Soil Analytical Results
Existing SWMUs/AOCs
Data Evaluation/Phase II Recommendation Summary
General Chemical Corporation
Delaware Valley Facility

SWMU/AOC	Potential Concerns	Comments	Recommended Phase II Scope of Work
SWMU 1	• Arsenic, less than 10 ppm	• Within general background levels • Concentrations are less than 10^{-5} risk • Concentrations are less than other accepted cleanup levels • Only constituent present above 10^{-6} risk level	• No additional work recommended.
SWMU 5	• Arsenic, 92 to 340 ppm • Mercury, at or slightly above its RBC of 10 ppm • PAHs (low ppm levels) • Soil samples collected at depth	• Source of PAHs is likely from asphalt, railroad, or general fill – anthropogenic • Soil quality in this area has likely been influenced by past waste management activities at SWMU No. 9	• Collection of four surface soil samples at previous locations for arsenic and mercury • Collection of 12 additional surface soil samples to define the lateral extent of arsenic and mercury including the area between the railroad spur and SWMU No. 9.
SWMU 16	• Trichloroethene above RBC in 3 samples (14.1, 344, and 1910 ppm); benzene above in one sample • Arsenic above RBC but less than 10 ppm at three locations • Arsenic, 19 to 110 ppm at the other six locations • Pesticides above RBCs at four locations • PAHs (low ppm levels) • Lead slightly above RBC at one location	• Extent of Past Landfill Area IV defined • Two highest TCE concentrations and benzene detected within former landfill area (split samples with USEPA) • Only one samples outside source area above TCE RBC (B16-G) • Asphalt paving in all directions except a 20 foot wide corridor 15 feet NE of B16-G and 30 feet SW of B16-I. • Clay layer identified beneath landfill area • Disturbance of area resulted in a relatively high level of organic vapors • Distribution of As and pesticides do not show pattern associated with past landfill • Source of PAHs likely fill/railroad	• No further characterization; landfill and adjacent unpaved areas will be addressed using appropriate corrective action measures

SWMUs 21, 22, and 30	• Arsenic for most samples below 10 ppm; max. of 25ppm • Pesticides at low levels in most samples; higher levels in 4 samples	• Using a 10(-5) risk results in only 4 locations above RBCs. • Arsenic concentrations are less than other accepted cleanup levels • Sampled area and SWMUs are covered with an approximate 6 inch layer of gravel • Concentrations sporadic around unit although higher at one location on north and generally the south side of units. • Honeywell property adjacent on three sides • General Chemical property south recently paved • Remaining property south and west unpaved	• No further characterization; landfill and adjacent unpaved areas will be addressed using appropriate corrective action measures
SWMU 23	• Arsenic relatively high in several sample locations (660 to 6,800 ppm) • Sample at depth (2.0') had highest arsenic concentration • Mercury at 90-110 ppm at three locations • Pesticides in all samples and as high as 2,500 and 6,500 ppm in two of the samples	• Former Landfill Area XI not completely defined based on physical and chemical observations • No distinctive pattern of distribution. • The lateral extent has not been defined for any constituent above RBCs.	• Six 2.0 to 2.5 foot depth samples at previous locations to assist in defining the extent of former landfill area • Collection of soil samples at six additional sampling locations in unpaved areas beyond sampling area. The collection of surface soil and 2.0 to 2.5 foot depth samples at each location to evaluate the lateral extent of relatively high concentrations of arsenic and pesticides in surface soils and further define the extent of the former landfill area • Collection of a soil sample from the 4.5 to 5.0 depth interval at four locations (B23-A, B23-E, B23-F, and B23-G) to evaluate the depth of the former landfill
SWMU 27	• Arsenic at low levels in each sample (less than 3 ppm except for one sample at 12 ppm • Pesticides at low levels in three samples	• Sporadic distribution of pesticide concentrations • General Chemical property west and south is generally unpaved • Honeywell property to the north • None of the results above 10^{-5} RBCs • Arsenic levels are less than accepted cleanup levels	• No further characterization; adjacent unpaved areas will be addressed using appropriate corrective action measures

SWMU 28	• Arsenic at low levels (5.2 and 11ppm) in two of the three samples	• Arsenic levels are below 10^{-5} RBC • Arsenic levels are less than other accepted cleanup levels • Arsenic levels below background	• No additional work recommended
AOC 1	• Arsenic at a low level (4.7 ppm) in one of the two samples	• Arsenic levels are below 10^{-5} RBC • Arsenic levels are less than other accepted cleanup levels • Arsenic levels below background	• No additional work recommended
AOC 3	• Pesticide 4,4-DDT detected in two of the samples at 25 and 50 ppm.	• Pesticide results are less than 10^{-5} RBC • On site extent of pesticides defined in unpaved areas • One of the samples containing 4,4-DDT is along the property boundary	• Collection of three surface soil samples off-site along the fence line
AOC 4	Low level of PAHs in both samples	• Source of PAHs is likely from asphalt, railroad, or general fill – anthropogenic • PAH results are less than 10^{-5} RBCs	• No additional work recommended

Table 14
Groundwater Data Evaluation
Recommended Phase II Groundwater Activities
General Chemical Corporation
Delaware Valley Facility

Groundwater Data Item	Description of Item/ Data Gap(s)	Recommended Phase II Activities
Well EWL-8	• Need to further evaluate apparent mounding at Well EWL-8	• Additional groundwater investigations needed on Honeywell Property hydraulically upgradient of the former East and West Lagoon area
Well MW-102	• Distinctive suite of organic compounds at this location; dissimilar to those found at EWL-6 and EWL-8 (carbon tetrachloride, chloroform, nitrobenzene/toluene compounds) • Source of these compounds in this area is unknown	• Collection of 4 to 6 groundwater samples using geoprobe techniques in the immediate area of Well MW-102 to identify a potential source • Groundwater samples analyzed for VOCs, SVOCs and pesticides • Lateral extent to west contingent on additional information on Honeywell Property
Well SAL-3	• Acetone and MEK at relatively high concentrations • Based on current and past operations, the source of these compounds is unknown • Based on surrounding wells the extent of these compounds in groundwater appears very limited • No off-site migration based on hydraulically downgradient wells	• No additional characterization activities recommended

Well MW-115	• Source of LNAPL is unclear; historical operations on Oceanport property, past benzyl operations, fuel storage • Fingerprint analyses suggests Kerosene or Jet Fuel A • Arsenic groundwater concentrations relatively high (23 to 40 mg/l); likely source is from operations associated with the former sulfuric acid plant • Limited in extent based on groundwater quality at site downgradient wells	• Geoprobe investigation (approximately 3 or 4 borings) to evaluate source and extent of LNAPL. • Depending on results, installation of one inch diameter piezometers for LNAPL measurements
Well MW-114	• Benzene groundwater concentrations relatively high • Likely source is past benzyl operations located in the immediate vicinity of the well • Extent of benzene plume limited based on water quality at downgradient wells • No off site migration based on existing downgradient wells • Based on groundwater flow, contaminant migration between this well and the Delaware River may be parallel to the river	• Installation of an additional shallow groundwater monitoring well between MW-107 and MW-111 (Well MW-118) • Collection of six surface soil samples in unpaved area of past benzyl operations for VOC and SVOC analyses
Well MW-106	• Chlorinated solvents, primarily tetrachloroethene, at relatively high concentrations in groundwater • Contamination source likely related to past maintenance building/paint storage area activities • Plume limited based on downgradient groundwater quality • Off site migration is not occurring based on downgradient groundwater quality • Based on groundwater flow, contaminant migration between this well and the Delaware River may be parallel to the river	• Installation of an additional shallow groundwater monitoring well between MW-107 and MW-111 (Well MW-118) • Collection of six surface soil samples in unpaved areas within the maintenance building and paint shop area for VOC analyses

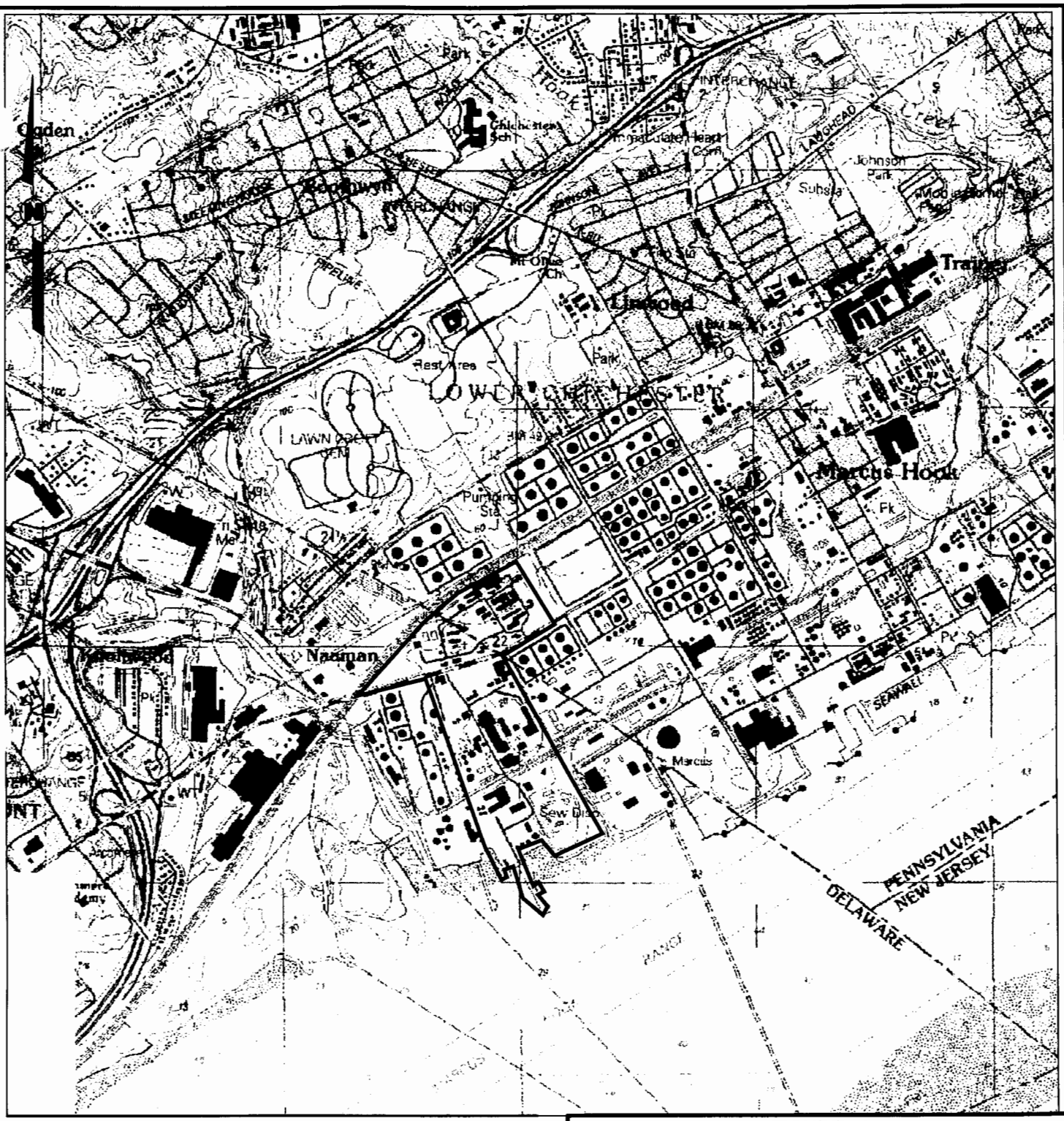
Well MW-112	• BTEX compounds at relatively high concentrations in groundwater • On site plume limited based on downgradient water quality on GCC property • Potential source(s) – Former UST waste oil tank, vehicle maintenance activities, Oceanport Industries • No unpaved areas in this part of the facility	• No additional groundwater characterization recommended
Arsenic concentrations in wells along Delaware River	• Arsenic at 50 to 100 ppm levels in several shallow wells, similar to historical concentrations • Lateral extent of higher arsenic concentrations is defined on GCC property • Vertical extent of arsenic is limited based on concentrations in Well 5D; support for upward flow gradient along the river • Potential sources: former acid spill area, AST acid storage tank, or SWMU 9	• Review results of decontamination activities in this area • Assumes monitoring wells information within/adjacent to SWMU 9 to evaluate SWMU as a potential source of higher arsenic concentrations • Collection of 5 surface soil samples in the unpaved area between the former sulfuric acid storage tank area and SWMU 9
Low levels of pesticides in South Plant Groundwater	• Appears regional based on distribution • Low levels of pesticides in upgradient/background wells • Higher concentrations along Conrail line (except SAL-3) • Primary pesticides are alpha/beta BHC	• No additional groundwater activities recommended
Vertical Extent of Constituents	• Depth to bedrock across the site will dictate whether the next deepest groundwater zone to be monitored is in bedrock or alluvium • Well B-5D provides groundwater quality data at depth along the Delaware River; Well B-2D does not represent groundwater quality at depth in this area • Groundwater elevation data indicates a fairly strong upward flow gradient along the river	• Review available geotechnical drawings (Honeywell and General Chemical) for depth to bedrock information • Honeywell to determine deep well(s) location on the North Plant • GCC to install four deep wells in the South Plant adjacent to Wells MW-110, MW-112, MW-115 and MW-118

Table 15
Additional SWMUs - South Plant
Recommended Scope of Work
General Chemical Corporation
Delaware Valley Facility

SWMU/AOC	Description	Recommended Scope of Work	Analytical Program
SWMU 33	Former Spray Pond Area	Area is paved with asphalt. No additional work proposed	Not Applicable
SWMU 34	Former Waste Oil Storage Pad	Two surface soil samples adjacent to the pad, one sample from each of the two sides that are unpaved	Metals, VOCs, SVOCs, PCBs
SWMU 35	Former Hazardous Waste Storage Pad	Four surface soil samples adjacent to pad, one sample from each side of the pad	Metals, VOCs, SVOCs, PCBs
SWMU 36	Debris Staging Area	Area is paved. No additional work proposed	Not Applicable
AOC 5	Former Sulfur Storage Tank Spill	Five surface soil samples within the unpaved portion of the former spill area	Metals, pH
AOC 6	Above Ground Fuel Storage Tank	The secondary containment area will be inspected following completion of facility decontamination activities. If unpaved, then four surface soil samples will be collected. If paved, then the containment area will be inspected for significant deterioration or cracking. If areas are identified, a maximum of four surface soil samples will be collected at these locations.	Metals, VOCs, SVOCs

AOC 7	Former Sulfuric Acid Plant Area	Six surface soil samples will be collected in an unpaved area adjacent to former operations	Metals, VOCs, SVOCs, pH
AOC 8	Former Spent Sulfuric Acid Loading and Unloading Area Sump	Inspect sump following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, VOCs, SVOCs, pH
AOC 9	Former Spent Sulfuric Acid (Flammable) Storage Area Sump	Inspect sump following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, pH
AOC 10	Former Acid Plant Area – Acid Storage Area Sumps A and B	Inspect sumps following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, pH
AOC 11	Former Contact Sulfuric Acid Plant Area A – Sumps A and B	Inspect sumps following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, pH
AOC 12	Former Contact Sulfuric Acid Plant Area B – Sumps A and B	Inspect sumps following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, pH
AOC 13	Former Photo Salts Plant Area Sumps A and B	Inspect sumps following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, pH
AOC 14	Former Sulfuric Acid Tank Storage Area Sump	Inspect sump following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, pH
AOC 15	Former Acid Loading/Unloading Area Sump	Inspect sump following decontamination activities. If conditions indicate a potential significant release, then a surface soil sample will be collected beneath the sump	Metals, pH

DRAWING NUMBER 03360A1



SCALE

0 2000 4000 FEET

REFERENCE
USGS 7.5-MIN TOPOGRAPHIC QUADRANGLE
MARCUS HOOK, PA-NJ-DE, DATED 1993
SCALE 1:24000.

FIGURE 1

FACILITY LOCATION MAP

GENERAL CHEMICAL CORPORATION
DELAWARE VALLEY WORKS
CLAYMONT, DELAWARE

PREPARED FOR
GENERIAL CHEMICAL CORPORATION
PARSIPPANY, NEW JERSEY

CUMMINGS RITER CONSULTANTS, INC.

DRAWING NUMBER 03360A1

REVISION	DATE	DESCRIPTION

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